



Docket No.: 1450.1001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Tomokatsu KISHI et al.

Serial No. 09/440,704

Group Art Unit: 2674

Confirmation No. 3313

Filed: November 16, 1999

Examiner: Alexander Eisen

For: PLASMA DISPLAY DRIVING METHOD AND APPARATUS

RESPONSE

RECEIVED

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

JUL 20 2004

Technology Center 2600

Sir:

Applicants hereby respond to the Office Action mailed January 14, 2004. This response is filed with a Petition for a Three Month Extension of Time and, accordingly, is timely filed on July 14, 2004.

The Examiner's actions of withdrawing the finality of the Office Action mailed January 14, 2004 and entering of the Amendment after Final, filed November 14, 2003, as reported in Items 1 and 2 of the current, non-final Office Action are acknowledged and greatly appreciated.

In the Interview Summary for the interview conducted April 20, 2004, Examiner Eisen wrote:

applicant's representative pointed out that prior art of record does not teach a second erase discharge period in each reset period wherein a first erase pulse of continuously changing voltage in a positive direction is applied to a first electrode, and a second erase pulse of continuously changing voltage in a negative direction is applied to a second electrode. Examiner will consider applicant's response.

(Emphasis added)

Applicants' counsel understood that the comment that: "Examiner will consider applicant's response" as meaning the Examiner was satisfied with the presentation at the interview and that, after conducting an up-dated search and assuming no more relevant prior art were uncovered, a Notice of Allowance would be issued. Examiner Eisen clarified more recently that he was awaiting a written response to the outstanding Office Action, which applicants are providing herewith.

In the response filed November 14, 2003, independent claims 1 (method) and 10 (apparatus) were commonly amended in the respective second paragraphs of each, as shown in the following block quotes of those respective second paragraphs:

(Claim 1)

said reset period includes first and second erase discharge periods performing erase discharges to erase wall charges accumulated in cells wherein the erase discharge in said second erase discharge period is achieved by applying, to a first electrode, a first erase pulse whose application voltage continuously changes with time in a positive direction and applying, to a second electrode, a second erase pulse whose application voltage continuously changes with time in a negative direction.

(Emphasis added)

(Claim 10)

wherein said controller performs the erase discharge in said second erase discharge period to erase wall charges accumulated in cells by applying, to a first electrode, a first erase pulse whose application voltage continuously changes with time in a positive direction and applying, to a second electrode, a second erase pulse whose application voltage continuously changes with time in a negative direction.

(Emphasis added)

As is shown by the added emphasis in the above block quote of the Interview Summary and in the above block quotes of the last paragraphs of claims 1 and 10, the importance of the amended clauses introduced in those independent claims 1 and 10 was duly recognized at the interview of April 20, 2004.

Applicants reproduce below the Remarks of the Response filed November 14, 2003 and particularly the "Supplemental Arguments..." at pages 9 through the end of the Response, which urged patentability in view of those same clauses:

SUPPLEMENTAL ARGUMENTS BY APPLICANTS IN SUPPORT OF PATENTABILITY

The Present Invention

In a plasma display driving method in accordance with the present invention, the reset period performing an erase discharge to erase wall charges in the cell includes a second erase discharge period in which a first erase pulse, whose application voltage continuously changes with time in a positive direction, is applied to a first electrode and a second erase pulse, whose application voltage continuously changes with time in a negative direction, is applied to a second electrode. By applying the first and second erase pulses to the first and second electrodes, respectively, weak wall charges accumulated (and remaining) in the OFF cell can be erased during the second erase discharge period.

WEBER

Weber (USP 5,745,086) discloses a plasma panel in which two pulses are applied during the reset period. However, Weber differs significantly from the present invention, in that the first and second pulses of Weber are not able to erase weak wall charges in the OFF cell. The present invention, as claimed, thus, clearly, patentably distinguishes over Weber.

TOKUNAGA

Tokunaga (USP 5,982,344) teaches a technique of applying a long rising pulse (RPx) and a long falling pulse (Rpy). However, taking into account that the period for applying long rising/falling pulses of Tokunaga corresponds to the second erase discharge period of the present invention, the result is that there is no first erase discharge period, as employed by the present invention. Accordingly, the present invention patentably distinguishes over Tokunaga.

Furthermore, in Tokunaga, long rising/falling pulses are write pulses, which serve to accumulate wall charges in the cell, and not erase pulses, which function erase weak wall charges in the cell in accordance with the present invention.

THE PRESENT INVENTION PATENTABLY DISTINGUISHES OVER THE REFERENCES RELIED UPON

Therefore, the present invention patentably distinguishes over both Weber and Tokunaga, not only as to the respective functions of pulses applied during the reset period but also based on technological principles. Even if Weber and Tokunaga were properly combinable, which applicants respectfully dispute, weak wall charges accumulated in an OFF cell cannot be erased by the combination of the references, as in the present invention.

Both of Tokunaga and Matsumoto et al. (JP 100003281A)

fail to disclose that the reset period includes first and second erase discharge periods. Furthermore, Tokunaga and Matsumoto have no description of a reset period including a second erase discharge period in which a first erase pulse, whose application voltage continuously changes with time in a positive direction, is applied to a first electrode and a second erase pulse, whose application voltage continuously changes with time in a negative direction, is applied to a second electrode.

Accordingly, the present invention patentably distinguishes over the proposed combination of Weber, Matsumoto and Tokunaga even if that combination were proper, which applicants respectfully dispute.

It is submitted that the foregoing arguments in support of patentability were not addressed in either the now withdrawn final Office Action of July 14, 2003 or the current Office Action of January 13, 2004--and to which applicants further respond in the following.

FURTHER SUPPLEMENTATION OF PRIOR RESPONSE

Item 5 of the present Action rejects claims 1, 4-7, 9-10, 13-14 and 18 for obviousness under 35 USC § 103(a) over Weber '086 in view of Tokunaga '344.

This rejection is respectfully traversed.

At page 3 regarding the rejection of item 5, the Examiner concedes that Weber lacks the teaching of the independent claims 1 and 10, quoted hereinabove, stating:

Weber does not disclose, however, that erase discharge in each second discharge period is achieved by applying a first electrode a first erase pulse whose application voltage continuously changes with time in positive direction, and applying to a second electrode a second erase pulse whose application voltage continuously changes with time in a negative direction.

(Action at page 3)

Tokunaga then is advanced for teaching a "soft erasing technique":

Tokunaga teaches a "soft" erasing technique, wherein reset pulses applied to the first and second electrodes RP_x and RP_y have long rising/falling time (see FIG. 2, column 4, lines 47-53). This according to Tokunaga, also improves the contrast of the plasma display.

(Action at page 3)

Applicants contend that neither of the Weber and Tokunaga references teaches the above, common claim limitation of claims 1 and 10, whether taken singly or in any proper combination, and, further, that *prima facie* obviousness of the combination has not been shown. Instead, the combination is based on the following contention:

It would have been obvious to one of ordinary skill in the art at the time of the invention to improve the method of Weber by the teaching of Tokunaga for the benefit as described above, i.e. improving the contrast of the image produced by the plasma display.

(Action at page 4)

As shown below, this contention fails to support *prima facie* obviousness of the combination.

Item 6 rejects claims 2 and 11 for obviousness under 35 USC § 103(a) over that same prior art combination taken further in view of Matsumoto, JP '281A.

The rejection is respectfully traversed.

In support of the rejection of claims 2 and 11 in item 6, the Action asserts as to Weber:

Weber also discloses a method, wherein during a reset period two pulses are applied in which applied voltage varies with time, pulses are alternate in polarity.

(Action at page 4)

Tokunaga then is cited again as teaching a "soft" erasing technique:

Tokunaga teaches a "soft" erasing technique, wherein reset pulses applied to the first and second electrodes RP_x and RP_y have long rising/falling time (see FIG. 2, column, 4, lines 47-53). This, according to Tokunaga, also improves the contrast of the plasma display.

(Action at page 5)

It is respectfully submitted that these contentions as to the teachings of the two references do not overcome the patentable distinctions which these claims 2/1 and 11/10 inherit

from their respective independent claims 1 and 10 nor do they address the further patentably distinguishing features afforded by the respective recitations of these dependent claims 2/1 and 11/10. Particularly, claims 2/1 and 11/10 both require the functions set forth in claim 2, reproduced below, and which are incorporated in the recitations of claim 11, which recites a controller performing those same functions:

2. (PREVIOUSLY AMENDED) A method according to claim 1, wherein:
a full-surface write discharge and a full-surface erase discharge are performed during said reset period only in a specific subfield among the plural subfields in each frame;
erase discharges to erase wall charges accumulated in cells are performed during said reset periods in the remaining subfields without performing said full-surface write discharges; and
the erase discharges performed separately in said first and second erase discharge periods are executed in each subfield except for said specific subfield.

The Action, in fact, concedes that these recited functions are not disclosed by the Weber and Tokunaga references:

None of the above discloses that full-surface write discharge and full surface erase discharge are performed only in a specific subfield in each frame, and in the remaining subfields only erasing discharges are performed.

(Action at page 5)

The Action then turns to Matsumoto for allegedly presenting the following teaching:

Matsumoto teaches a driving method for plasma display, wherein a full-surface discharge is performed only once per frame in a specific subfield (subfield A), erasing pulse E_p is used in the remaining subfields.

(Action at page 5)

It is respectfully submitted that Matsumoto as well fails to provide a teaching corresponding to the limitations of claims 2 and 10, even if Matsumoto were properly combinable with Tokunaga and Weber.

BOTH REJECTIONS OF ITEMS 5 AND 6 OF THE ACTION ARE FATALLY DEFICIENT FOR FAILURE TO PRESENT EVIDENCE IN SUPPORT OF THE *PRIMA FACIE* OBVIOUSNESS OF THE COMBINATION

The Action relies solely on the contention that "it would have been obvious to one of ordinary skill in the art at the time of the invention..." to make the combinations relied upon, as noted above.

However, the Federal Circuit has rejected reliance on "basic knowledge" or "common sense" as affording "no evidentiary support", In re Zurko, 258 F3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001), and which has been rigorously endorsed by the PTO in accordance with the Memorandum of Stephen G. Kunin of February 21, 2002: "Procedures For Relying On Facts Which Are Not Of Record As Common Knowledge Or For Taking Official Action." (Hereinafter, "Kunin Memorandum", copy enclosed) The "lack of substantial evidence" is evident in the Action (see Kunin Memorandum, page 1).

Clearly, the Examiner is merely advancing unsupported contentions based on alleged "common sense" and without evidentiary support to propose the combinations relied upon and the Kunin Memorandum unqualifiedly rejects same as inadequate.

CONCLUSION

It is respectfully submitted that the rejections are unsupported and should be withdrawn.

It furthermore is respectfully submitted that the pending claims patentably distinguish over the art of record and, there being no other objections or rejection, that the application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

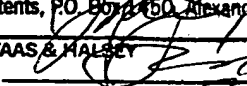
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Date: July 14, 2004

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